

REVISION DATE: 9/17/92
 TODAY S DATE: 3/23/93

MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME ----- FICAM® WASP & HORNET SPRAY
 EPA REGISTRATION NO. ----- 45639-140
 CANADIAN REG. NO. ----- 22103 P.C.P. ACT
 NOR-AM I.D. NO. ----- NONE
 PRIMARY HAZARDS ----- OVEREXPOSURE IN CONFINED AREA MAY IRRITATE
 EYES, CAUSE HEADACHE, DIZZINESS, AND
 REVERSIBLE CHOLINESTERASE INHIBITION

DATA SOURCE ----- NOR-AM CHEMICAL COMPANY
 3509 SILVERSIDE ROAD
 P.O. BOX 7495
 WILMINGTON, DE 19803

EMERGENCY TELEPHONE ----- DAYS: (302) 477-3000
 NIGHTS/WEEKENDS: (800) 424-9300 (CHEMIREC)

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT 1

COMMON NAME ----- Bendiocarb
 CHEMICAL NAME ----- 2,2-dimethyl-1,3-benzodioxol-4-yl
 methyl carbamate
 MOLECULAR FORMULA ----- C H NO
 11 13 4
 CAS NUMBER ----- 22781-23-3
 PERCENT ----- 0.10%

INGREDIENT 2

COMMON NAME ----- Piperonyl butoxide
 CHEMICAL NAME ----- 5-{{2-(2-butoxyethoxy)ethoxy}methyl}-6-
 propyl-1,3-benzodioxle
 MOLECULAR FORMULA ----- C H O
 19 30 5
 CAS NUMBER ----- 51-03-6
 PERCENT ----- 0.50%

INGREDIENT 3

COMMON NAME ----- Inert Ingredients (Trade Secret)
 PERCENT ----- 99.4%
 INCLUDING: ----- METHYL CHLOROFORM (1,1,1-Trichloro-
 ethane) CAS:71-55-6): 96 %(maximum)

SECTION 3 - PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT----- Not applicable
 MELTING POINT----- Not applicable
 VAPOR PRESSURE----- Not applicable
 APPEARANCE----- Pressurized clear to light brown liquid
 ODOR----- Chlorinated solvent-like
 SOLUBILITY IN WATER----- Not applicable
 SPECIFIC GRAVITY----- 1.320 (20° C)

SECTION 4 - FIRE-FIGHTING MEASURES

FLASH POINT----- >200°F, prefill (nonvolatile)
 FLAME EXTENSION----- Negative
 EXTINGUISHING MEDIA----- Water fog, foam, carbon dioxide or dry chemical.

 SPECIAL FIRE FIGHTING PROCEDURES----- Avoid inhalation of fumes. Use self-contained breathing apparatus with full face piece. Remove from area of fire at once. Do not use direct stream of water; material may float and reignite.

 UNUSUAL FIRE AND EXPLOSION HAZARDS----- CONTENTS UNDER PRESSURE. Exposure to temperatures above 130° F may cause bursting. DO NOT SPRAY IN A CONFINED AREA; VAPORS MAY DEVELOP A FLAMMABLE ATMOSPHERE. When heated to the point of decomposition (above 140°C or 240°F), bendiocarb gives off a toxic fume which is rapidly eliminated by fire or water.

SECTION 5 - STABILITY AND REACTIVITY

STABILITY----- Stable
 HAZARDOUS POLYMERIZATION----- Will not occur

SECTION 6 - HEALTH HAZARD

PRIMARY ROUTES OF ENTRY--- Dermal, inhalation
 EXPOSURE LIMIT----- BENDIOCARB: the W.H.O. recommends a limit of 0.2 mg/m³; METHYL CHLOROFORM: ACGIH TLV-OSHA PEL= 350 ppm(1900 mg/m³) STEL (15 mins.)= 450 ppm(2450 mg/m³).
 CORROSIVITY----- Not corrosive to skin or eyes
 SKIN/EYE IRRITATION----- Vapor may irritate eyes. Repeated contact may irritate the skin.
 SENSITIZATION----- Does not cause skin sensitization
 EFFECTS OF OVEREXPOSURE--- Overexposure in a CONFINED OR POORLY VENTILATED AREAS may cause reversible cholinesterase inhibition, nausea, and/or vomiting, dizziness, drunkenness, and respiratory irritation. May be harmful if swallowed.
 TOXICITY----- None of the components of this product are listed as carcinogenic by NTP, IARC

or OSHA.

ACUTE STUDIES-----ORAL LD50 (rat):>5000 mg/kg (low toxicity)
DERMAL LD50 (rabbit):>2000 mg/kg (low toxicity)

INHALATION LC50 (rat, 4hrs.) : Greater than 4.41 mg/l (the highest attainable aerosol concentration in air); no mortality was observed in rats exposed to this maximum dose. (low toxicity)

CHRONIC STUDIES-----TARGET ORGAN EFFECTS : In two-year feeding studies with Bendiocarb in animals, no clinical signs or mortality related to treatment were observed in rats and dogs at dose levels up to 200 ppm and 500 ppm, respectively; the effects observed at the highest dose were reduced blood cholinesterase level in rats and lower blood and brain cholinesterase levels in dogs. Similarly, bendiocarb administered chronically to mice at dietary dose levels up to 1250 ppm showed only an effect in increased testes weight at the highest dose.

No adverse effects of piperonyl butoxide were observed in rats fed for two years dietary dose levels up to 100 ppm.

TERATOGENICITY-----No evidence of teratogenic effects of Bendiocarb was observed in offspring of rats and rabbits fed during gestation dose levels up to 4 mg/kg/day and 5 mg/kg/day, respectively.

REPRODUCTION-----Bendiocarb showed no effects on fertility or reproduction in rats fed dietary levels up to 800 ppm prior to mating and during gestation.

MUTAGENICITY-----Bendiocarb is not mutagenic or genotoxic when tested in Ames gene mutation assay and four other mutagenesis assays of bacteria, yeast, and rodents.

In an in vitro analysis of metaphase chromosomes from human lymphocyte cell cultures, a positive result was observed only in the presence of metabolic activation. However, an in vivo analysis of metaphase chromosomes of bone marrow cells did not show any evidence of chromosomal damages, both in the absence or presence of metabolic activation. It is concluded from the results of these mutagenesis studies that bendiocarb does not damage chromosomes in humans and animals under normal conditions of use.

NEUROTOXICITY-----No evidence of neurological lesions or irreversible or delayed neurotoxic

effects were observed when bendiocarb was administered to hens by single doses up to 757 mg/kg.

SECTION 7 - FIRST AID MEASURES

- IF SWALLOWED** ----- CALL A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY. Drink 1 or 2 glasses of water and induce vomiting by tickling back of throat with finger. do not give anything by mouth to an unconscious person.
- IF INHALED** ----- Remove affected person to fresh air. Apply artificial respiration if indicated.
- IF IN EYES** ----- Flush with plenty of water. Contact a physician if irritation persists.
- IF ON SKIN** ----- Remove contaminated clothing and wash affected areas of skin with soap and water. Contact a physician if irritation persists. Wash clothing with soap and water before re-use.
- NOTE TO PHYSICIAN** ----- Bendiocarb is a cholinesterase inhibitor. Atropine sulfate 2 mg should be given by injection and repeated as necessary until fully atropinized.

SECTION 8 - ACCIDENTAL RELEASE MEASURES AND DISPOSAL INFORMATION

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
KEEP PEOPLE AWAY AND ISOLATE HAZARD AREA. SHUT OFF IGNITION SOURCES, NO FLARES, SMOKING OR FLAMES IN HAZARD AREA. Use water spray to reduce vapors and isolate area until gas has dispersed. Stop leak if it can be done without risk. **WITHDRAW IMMEDIATELY** in case of rising sound from cans or any discoloration of cans due to fire. Soak up residues with non-combustible absorbent material for **DISPOSAL AS A CHEMICAL WASTE.** Wash areas with water and detergent. **INFORM AUTHORITIES AT ONCE IF SEWERS OR WATERCOURSES ARE CONTAMINATED.**

WASTE DISPOSAL METHOD----- Waste, including spills or rinsates, and leftover pesticide that cannot be used according to label instructions, must be disposed of according to the applicable Federal (RCRA), State or local procedures.
RCRA HAZARDOUS WASTE INGREDIENTS: 1,1,1,-Trichloroethane (U226)

SECTION 9 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

RESPIRATORY PROTECTION----- Ensure **GOOD VENTILATION** before use; Use a **VAPOR** respirator for added protection

PROTECTIVE GLOVES----- PVC or rubber

EYE PROTECTION----- Goggles, safety glasses, face shield.

Although general guidance has been provided, the degree of protection required in a particular situation depends on factors such as concentration and duration. More detailed advice on protective devices is available from **NOR-AM.**

SECTION 10 - HANDLING AND STORAGE**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:**

May be harmful if swallowed or absorbed through the skin.
 DO NOT get in eyes. AVOID BREATHING SPRAY MIST.
 Avoid contact with skin or clothing. Wash thoroughly
 with soap and water after handling.

STORAGE: Store in a cool, dry place inaccessible to children
 and pets. CONTENT UNDER PRESSURE. DO NOT USE OR STORE
 NEAR HEAT OR OPEN FLAME. DO NOT PUNCTURE OR INCINERATE
 CONTAINER. Exposure to temperatures above 130° F may
 cause bursting.

SECTION 11 - TRANSPORT INFORMATION

PROPER SHIPPING NAME--: Aerosols, non-flammable, N.O.S., 2.2,
 (contains 1,1,1-Trichloroethane), UN1950
 Volume (in Pounds/Kilos), Limited Quantity.
DOT LABEL(S)-----: "Inside Containers Comply with Prescribed
 Regulations" Excepted from hazard labeling.
FREIGHT CLASSIFICATION: Insecticides, Other Than Agricultural,
 N.O.I., AEROSOL.

SECTION 12 - ECOLOGICAL INFORMATION

ENVIRONMENTAL HAZARD----- This product is toxic to fish and
 wildlife. DO NOT apply directly to water. DO NOT contami-
 nate water when disposing of equipment washwaters.

SECTION 13 - REGULATORY INFORMATION**SARA TITLE III NOTIFICATION AND INFORMATION**

EPA (Sections 311/312) Hazard Categories:

Immediate (Acute): -Yes Fire: ----- No
 Delayed (Chronic): -No Pressure: -- No
 Reactivity: ----- No

Section 302 (EHS) ingredients: --- Not listed

Section 313 ingredients: --- 1,1,1-Trichloroethane (96% max.)

Section 304 (CERCLA & EHS) ingredients (RQ): --- Methyl
 chloroform (1,1,1-Trichloroethane) (= 1000)

CANADIAN WHMIS CLASSIFICATION: NC--; this Ficam spray is not a
 Controlled Product under WHMIS criteria (Ensure good
 ventilation before use to prevent any irritation to eyes)

SECTION 14 - OTHER INFORMATION**HMIS HAZARD RATING:**

Health: ----- 2

Flammability: ----- 2

Reactivity: ----- 1

Personal Protection Index: G

NFPA 704 FIRE HAZARD RATING:

Health: ----- 2

Fire: ----- 2

Reactivity: ----- 1

Specific Hazard: --- None

MSDS REVISION DATE: 9/17/92; revised Section 11

SUPERCEDES: MSDS dated 1/30/92

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